APPARATUS AND METHOD FOR PASSIVELY MONITORING LIVENESS OF JOBS IN A CLUSTERED COMPUTING ENVIRONMENT

ABSTRACT OF THE DISCLOSURE

An apparatus and method passively determine when a job in a clustered

5   computing environment is dead. Each node in the cluster has a cluster engine for communicating between each job on the node and jobs on other nodes. A protocol is defined that includes one or more acknowledge (ACK) rounds, and that only performs local processing between ACK rounds. The protocol is executed by jobs that are members of a defined group. Each job in the group has one or more work threads that

10   execute the protocol. In addition, each job has a main thread that communicates between the job and jobs on other nodes (through the cluster engine), routes appropriate messages from the cluster engine to a work thread, and signals to the cluster engine when a fault occurs when the work thread executes the protocol. By assuring that a dead job is reported to other members of the group, liveness information for group members can be

15   monitored without the overhead associated with active liveness checking.

Docket No. RO999-057   27